START

MEETING MINUTES

Subject: Expedited Response Action Weekly Interface

TO: Distribution BUILDING: 740 Stevens Building

FROM: W. L. Johnson CHAIRMAN: G. C. Henckel

Dept-Operation-Component	Area	Shift	Meeting Dates	Number Attending
Environmental Engineering	3000	Day	February 22, 1993	16

Distribution

State of Washington Department of Ecology
J. Donnelly*
L. Goldstein
D. Goswami
R. L. Hibbard
J. Phillips
D. D. Teel
N. Uziemblo
J. Yokel
T. Wooley*

U.S. Army Corps of Engineers
J. T. Stewart A5-20

U.S. Department of Energy, Richland Field Office
H. L. Chapman A5-19
J. K. Erickson A5-19
E. D. Goller* A5-19
R. G. McLeod A5-19
P. M. Pak* A5-19
R. K. Stewart A5-19

IT Corporation
M. E. Todd
J. Chiaramonte

Dames & Moore
Bob Scheck

U.S. Environmental Protection Agency
P. R. Beaver B5-01
D. R. Einan
D. A. Faulk*
L. E. Gadbois
P. S. Innis*
D. R. Sherwood*

Westinghouse Hanford Company
L. D. Arnold B2-35
M. V. Berriochoa B3-30
M. P. Connelly* H4-14
H. D. Downey* H6-27
F. W. Gustafson* H6-04
W. F. Heine B2-35
G. C. Henckel* H6-04
W. L. Johnson H6-04
J. K. Patterson* H6-27
D. L. Sickle H6-27
W. A. Skelly* H6-03
T. M. Wintczak H6-27
EDMC H6-08
ERAG Route H6-04
GCH File/LB

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*Attendees

The weekly interface meetings on the expedited response actions (ERAs) was held to status the ERAs for the U.S. Department of Energy, Richland Field Office and the regulators. The meeting was conducted in accordance with the attached agenda. Actions were formally reviewed and the attached action item list was updated. The weekly report is also attached.

All seven ERAs were discussed and their status summarized. Additional discussion of the N-Springs ERA included a brief description on how modeling is being incorporated into the Emergency Evaluation/Cost Analysis. Copies of the ERA video, draft data the Riverland (radiation results) and White Bluffs Pickling Acid Cribs were provided. The action item concerning passive emissions of carbon tetrachloride was closed as all parties agreed that the emissions could not be regulated is a point source.

Attachments:
1. Agenda
2. Action Item List
3. Decisions, Agreements & Commitments
4. Expedited Response Action Weekly Report, week ending 02/07/93
5. Radiation Results for Riverland ERA
6. Sample Results for White Bluffs Pickling Acid Crib

WEEKLY ERA INTERFACE AGENDA

SUBJECT: STATUS OF THE EXPEDITED RESPONSE ACTIONS

DATE: February 22, 1993

- GENERAL ISSUES
  - ERA Interface Action Item review
- INDIVIDUAL PROJECT STATUS
  - N-Springs
    - o Model status
  - Sodium Dichromate
    - o Tentative start 3/1/93 pending receipt of Action Memorandum
  - North Slope
    - o Sampling of 2,-4-D completed
    - o Acid neutralization sampling completed
  - Pickling Acid Crib
    - o Data validation agreement
  - Riverland
    - o Rad data summary
    - o Need to discuss results of regulator sampling
  - 618-11
    - o 325 data from PNL
  - 200-W Carbon Tetrachloride
    - o 24-hour operation ongoing
    - o GAC release letter being revised
    - o Drilling continues
    - o On schedule for 3/31/93 3000 cfm operation
  - 316-5 & 618-9
    - o Status of closure reports
- OTHER ISSUE
- SUMMARY OF ACTION ITEMS
- SIGN-OFF ON ANY DECISIONS, AGREEMENTS, OR COMMITMENTS

WEEKLY ERA INTERFACE AGENDA

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- GENERAL ISSUES
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Weekly Report, Week Ending February 21, 1993
EXPEDITED RESPONSE ACTIONS
Technical and Management Contact - Wayne L. Johnson, 376-1721
Environmental Division

North Slope Expedited Response Action - Interpretation of the geophysical survey conducted at Nike Missile H-83 do not explicitly indicate the presence two drywells as indicated on engineering drawings of the complex. The results show extensive sub-surface rubble and structures apparently associated with the demolition of the spare-parts building. Several pipelines and electrical conduit (which also appear on the engineering drawings) were depicted however. This information will be used to delineate the location of the drywells with respect to the pipes and conduit for further investigation through excavation.

Sampling efforts at the 2,4-D landfill were completed. Field screening indicated the presence of 2,4-D in one of the samples. The 2,4-D concentration was near the method detection limit. Reruns of the analysis failed to indicate the presence of 2,4-D in the sample. This sample was not included in the composite samples and will be analyzed at an off-site lab separate from the composite.

Sampling activities have also been completed at the acid neutralization pit, H-07-C drywell and at the concrete grease ramp located at PSN-90. Five drums of oil contaminated soil were removed. Additional contaminated soil was stockpiled on plastic until more drums are obtained. Two samples were taken from the area after the obviously contaminated soils were removed.

Preparation of the ERA Proposal continues. Data continues to arrive from the analytical labs. Initial review of the data indicated no elevated levels of contaminants.

N-Springs Expedited Response Action - Preparation of the ERA proposal continues and is on schedule.

618-11 Burial Ground Expedited Response Action - PNL employees have completed review of 325 lab notebooks information is being organized into a deliverable report. Attempts to estimate the curie content of waste payloads continues. The USRADS survey at 618-11 was completed and the survey at 618-10 was initiated.

Sodium Dichromate Expedited Response Action - EPA and Ecology continue to develop responses to public comments and prepare the action memorandum in accordance internal procedures.

Riverland Expedited Response Action - The analytical lab data has been received. Preliminary results from the sampling have raised some questions which are being addressed with the regulators. Based on the results and discussions with the regulators the draft proposal is being revised.

White Bluffs Pickling Acid Crib Expedited Response Action - Sample data from the chemical analyses arrived from the labs this week. This data will be validated by a subcontractor and used in the preparation of the EE/CA. EE/CA is due for RL/regulator/public review on July 7, 1993.

200 West Carbon Tetrachloride Expedited Response Action -

CCl_4 ERA

VES Operations

Radon/Actinide Shipping Moratorium - The letter to DOE-HQ requesting a temporary lifting of the moratorium against shipping the canisters was submitted to RL and comments are being incorporated. The letter will go back to RL for final comments by February 22, 1993.

2-1A-18 VES Operations - Stabilization of the Z-18 and Z-1A areas has been completed. The CCl_4 production table for the 2-week period since starting 24 hours/day operations is included below. CCl_4 is being extracted from two wells in Z-18 and two from Z-1A (outside the Crib area) until such time the well manifolds can be reinstalled inside the Z-1A Crib area.

Operational Date	Source	Amount of CCl_4 Removed (lb)	Average CCl_4 Conc. (ppm)	Total Operational Time (hr)	Average Flowrate (SCFM)
2/8 - 2/11	216-Z-1A	98	200	46.15	450
2/16 - 2/19	216-Z-1A	30	285	9.4	475
Totals		128	250	54.5	450

On February 16, 1993, icing problems were experienced that caused the flow interlocks to shut down the system. Ice was found at the intakes and at low spots in the hoses.

Leased 500 cfm Vapor Extraction System (VES) - All equipment for the "lease" 500 cfm VES unit is at Z-9, except the blower frame which is expected February 22, 1993. The Z-9 area has been stabilized and the "lease" unit set up, hoses connected to the two wells, and power and tubing runs are being made. The 500 cfm unit is planned for a February 26, 1993, start. The idea is to gather approximately one months operating data from the wells at Z-9 prior to setting up operations with the 1500 cfm unit.

1500 cfm Unit - A site visit to Barnebey and Sutcliffe was held February 8 - 11, 1993, to review fabrication and preparation of the new unit for shipment to Hanford. Personnel from both Environmental Engineering and Quality Assurance attended. The trip was warranted as a result of recent discussions with the manufacturer that indicated fabrication of the system was behind schedule. Discussions between the manufacturer and WHC Procurement negotiated a revised delivery date, by rail from Chicago, of March 8, 1993. The trailers will require 3-4 days for inspection and "HO" coding by Fleet Management. It is expected that the system will be delivered to the site by March 15, 1993. In addition, topics discussed during the trip with Barnebey and Sutcliffe included a review of the draft

Acceptance Test Procedure, Offsite Training Document, and an overall system review. It was reaffirmed to the manufacturer of the importance of the revised commitment dates. The acceptance test will be conducted the week of March 15, 1993, and on-site training the week of March 22, 1993. The intake hoses from the wells will be connected and operations started the week of March 29, 1993.

CCl_4 Treatment Study - Ebasco completed the feasibility study to evaluate alternatives for the treatment or destruction of CCl_4 on February 5, 1993. The study's primary objective is to recommend a cost effective on-site treatment method to replace the present method of sending granular activated carbon canisters off site to destroy the CCl_4. Several areas of the study need further work and it is expected the study will be released by March 31, 1993. It appears that there are four viable alternatives with amortized costs ranging from $2.60 to $3.59 per pound of carbon tetrachloride destroyed as compared to the present method (off-site regeneration) of $5.68/lb.

Well Field Design

Drilling began February 3, 1993, on the first of five vapor extraction wells to enhance the existing wellfield. Well 299-W15-218, being drilled on the north side of the 216-Z-9 Trench, was at 90 ft. depth on February 16, 1993.

A draft version of the Wellfield Strategy for Vapor Extraction at the 216-Z-9 Trench was completed.

A complete wellhead monitoring system has been installed at well 299-W15-9 in addition to the one at 299-W15-217. The other six systems should be in place by March 12, 1993.

Site Characterization (with VOC-Arid ID)

Source Term Characterization

Evaluation of Effluent Pipelines: A second in-pipe camera was pushed approximately 80 ft into line 840, which connected the Recuplex facility with the 216-Z-9 Trench (a total of approximately 700 ft). [Note: the first camera was pushed into line 840D.] A sludge- or mud-like substance was encountered which coated the camera lens; the camera will need to be retrieved and the lens cleaned before advancing further. Staff from Engineering Surveillance & Testing have devised a system to minimize the chances of coating the lens again when they resume advancing the camera.

Crib Boreholes - Deepening of 299-W18-96 within 216-Z-18 began February 10, 1993. The initial depth was 80 ft; the current (February 16, 1993) depth is 118 ft. No radiological contamination has been encountered. Deepening of 299-W18-174 within 216-Z-1A is scheduled to begin March 15, 1993.

EcoTek LSI
EcoTek Laboratory Services Incorporated

GAMMA SPECTRA

Client: Weston
LSDG: 21303

Client Reference No.: 9210L504
Date Received: 12/4/92

Lab ID	Hanford ID	Weston ID	Date Collected	Date Analyzed	Analyte	Matrix	Result pCi/g	± 2 Sigma pCi/g	Detection Limit pCi/g
2130301	B01928	001	10/28/92	2/8/93	Cobalt - 58	Soil	ND	NA	4.53E-02
2130301	B01928	001	10/28/92	2/8/93	Iron - 59	Soil	ND	NA	1.74E-01
2130301	B01928	001	10/28/92	2/8/93	Cobalt - 60	Soil	ND	NA	2.09E-02
2130301	B01928	001	10/28/92	2/8/93	Cesium - 134	Soil	ND	NA	1.96E-02
2130301	B01928	001	10/28/92	2/8/93	Cesium - 137	Soil	5.78E-02	2.18E-02	NA
2130301	B01928	001	10/28/92	2/8/93	Cerium - 144	Soil	ND	NA	1.16E-01
2130301	B01928	001	10/28/92	2/8/93	Europium - 152	Soil	ND	NA	1.15E-01
2130301	B01928	001	10/28/92	2/8/93	Europium - 154	Soil	ND	NA	2.36E-02
2130301	B01928	001	10/28/92	2/8/93	Europium - 155	Soil	ND	NA	5.17E-02
2130301	B01928	001	10/28/92	2/8/93	Radium - 223	Soil	Half - Life too short		
2130301	B01928	001	10/28/92	2/8/93	Radium - 224	Soil	Half - Life too short		
2130302	B01929	002	10/28/92	2/8/93	Cobalt - 58	Soil	ND	NA	2.37E-02
2130302	B01929	002	10/28/92	2/8/93	Iron - 59	Soil	ND	NA	2.63E-01
2130302	B01929	002	10/28/92	2/8/93	Cobalt - 60	Soil	ND	NA	2.91E-02
2130302	B01929	002	10/28/92	2/8/93	Cesium - 134	Soil	ND	NA	3.01E-02
2130302	B01929	002	10/28/92	2/8/93	Cesium - 137	Soil	1.80E-01	4.45E-02	NA
2130302	B01929	002	10/28/92	2/8/93	Cerium - 144	Soil	ND	NA	1.85E-01
2130302	B01929	002	10/28/92	2/8/93	Europium - 152	Soil	ND	NA	1.52E-01
2130302	B01929	002	10/28/92	2/8/93	Europium - 154	Soil	ND	NA	3.97E-02
2130302	B01929	002	10/28/92	2/8/93	Europium - 155	Soil	ND	NA	7.93E-02
2130302	B01929	002	10/28/92	2/8/93	Radium - 223	Soil	Half - Life too short		
2130302	B01929	002	10/28/92	2/8/93	Radium - 224	Soil	Half - Life too short		
2130303	B01930	003	10/29/92	2/8/93	Cobalt - 58	Soil	ND	NA	8.06E-02
2130303	B01930	003	10/29/92	2/8/93	Iron - 59	Soil	ND	NA	2.98E-01
2130303	B01930	003	10/29/92	2/8/93	Cobalt - 60	Soil	1.58E-01	4.21E-02	NA
2130303	B01930	003	10/29/92	2/8/93	Cesium - 134	Soil	ND	NA	3.17E-02
2130303	B01930	003	10/29/92	2/8/93	Cesium - 137	Soil	1.05E-01	4.58E-02	NA
2130303	B01930	003	10/29/92	2/8/93	Cerium - 144	Soil	ND	NA	1.79E-01

ND = Not Detected

NA = Not Applicable

9211280163

2-2136

EcoTek LSI
EcoTek Laboratory Services Incorporated

GAMMA SPECIFIC

Client: Westan
LSDC: 21303

Client Reference No.: 9210L504
Date Received: 12/4/92

Lab Sample ID	Analyte Sample ID	Client Sample ID	Date Sampled	Date Analyzed	Analyte	Matrix	Result pCi/g	2 Sigma Error pCi/g	Detection Limit pCi/g
2130303	B01930	003	10/29/92	2/8/93	Europium - 152	Soil	4.99E-01	1.95E-02	NA
2130303	B01930	003	10/29/92	2/8/93	Europium - 154	Soil	ND	NA	4.79E-02
2130303	B01930	003	10/29/92	2/8/93	Europium - 155	Soil	ND	NA	7.42E-02
2130303	B01930	003	10/29/92	2/8/93	Radium - 223	Soil	Half - Life too short		
2130303	B01930	003	10/29/92	2/8/93	Radium - 224	Soil	Half - Life too short		
2130304	B01931	004	10/29/92	2/8/93	Cobalt - 58	Soil	ND	NA	8.58E-02
2130304	B01931	004	10/29/92	2/8/93	Iron - 59	Soil	ND	NA	3.46E-01
2130304	B01931	004	10/29/92	2/8/93	Cobalt - 60	Soil	1.78E-01	4.72E-02	NA
2130304	B01931	004	10/29/92	2/8/93	Cesium - 134	Soil	ND	NA	3.39E-02
2130304	B01931	004	10/29/92	2/8/93	Cesium - 137	Soil	ND	NA	3.25E-02
2130304	B01931	004	10/29/92	2/8/93	Cerium - 144	Soil	ND	NA	1.66E-01
2130304	B01931	004	10/29/92	2/8/93	Europium - 152	Soil	4.82E-01	2.18E-01	NA
2130304	B01931	004	10/29/92	2/8/93	Europium - 154	Soil	ND	NA	4.95E-02
2130304	B01931	004	10/29/92	2/8/93	Europium - 155	Soil	ND	NA	7.44E-02
2130304	B01931	004	10/29/92	2/8/93	Radium - 223	Soil	Half - Life too short		
2130304	B01931	004	10/29/92	2/8/93	Radium - 224	Soil	Half - Life too short		
2130305	B01933	005	10/29/92	2/8/93	Cobalt - 58	Soil	ND	NA	7.71E-02
2130305	B01933	005	10/29/92	2/8/93	Iron - 59	Soil	ND	NA	3.18E-01
2130305	B01933	005	10/29/92	2/8/93	Cobalt - 60	Soil	ND	NA	3.17E-02
2130305	B01933	005	10/29/92	2/8/93	Cesium - 134	Soil	ND	NA	2.97E-02
2130305	B01933	005	10/29/92	2/8/93	Cesium - 137	Soil	5.15E-01	6.35E-02	NA
2130305	B01933	005	10/29/92	2/8/93	Cerium - 144	Soil	ND	NA	1.73E-01
2130305	B01933	005	10/29/92	2/8/93	Europium - 152	Soil	ND	NA	1.74E-01
2130305	B01933	005	10/29/92	2/8/93	Europium - 154	Soil	ND	NA	5.59E-02
2130305	B01933	005	10/29/92	2/8/93	Europium - 155	Soil	ND	NA	7.42E-02
2130305	B01933	005	10/29/92	2/8/93	Radium - 223	Soil	Half - Life too short		
2130305	B01933	005	10/29/92	2/8/93	Radium - 224	Soil	Half - Life too short		
2130306	B01934	006	10/30/92	2/8/93	Cobalt - 58	Soil	ND	NA	5.48E-02

ND = Not Detected
NA = Not Applicable

9210L504

EcoTek LSI
Ecotek Laboratory Services Incorporated

GAMMA SPECIFIC

Client: Weston
LSDG: 21303

Client Reference No.: 9210L504
Date Received: 12/4/92

Lab Sample ID	Hanford Sample ID	Weston Sample ID	Date Sampled	Date Analyzed	Analyte	Matrix	Result pCi/g	2 Sigma Error pCi/g	Detection Limit pCi/g
2130306	B01934	006	10/29/92	2/8/93	Iron - 59	Soil	ND	NA	2.07E-01
2130306	B01934	006	10/29/92	2/8/93	Cobalt - 60	Soil	ND	NA	2.04E-02
2130306	B01934	006	10/29/92	2/8/93	Cesium - 134	Soil	ND	NA	2.03E-02
2130306	B01934	006	10/29/92	2/8/93	Cesium - 137	Soil	ND	NA	2.19E-02
2130306	B01934	006	10/29/92	2/8/93	Cerium - 144	Soil	ND	NA	1.29E-01
2130306	B01934	006	10/29/92	2/8/93	Europium - 152	Soil	ND	NA	1.03E-01
2130306	B01934	006	10/29/92	2/8/93	Europium - 154	Soil	ND	NA	2.66E-02
2130306	B01934	006	10/29/92	2/8/93	Europium - 155	Soil	ND	NA	5.65E-02
2130306	B01934	006	10/29/92	2/8/93	Radium - 223	Soil	Half - Life too Short		
2130306	B01934	006	10/29/92	2/8/93	Radium - 224	Soil	Half - Life too Short		
2130307	B01935	007	10/29/92	2/8/93	Cobalt - 58	Soil	ND	NA	1.19E-01
2130307	B01935	007	10/29/92	2/8/93	Iron - 59	Soil	ND	NA	4.21E-01
2130307	B01935	007	10/29/92	2/8/93	Cobalt - 60	Soil	5.82E-01	6.22E-02	NA
2130307	B01935	007	10/29/92	2/8/93	Cesium - 134	Soil	ND	NA	4.87E-02
2130307	B01935	007	10/29/92	2/8/93	Cesium - 137	Soil	1.90E+01	2.36E+00	NA
2130307	B01935	007	10/29/92	2/8/93	Cerium - 144	Soil	ND	NA	2.81E-01
2130307	B01935	007	10/29/92	2/8/93	Europium - 152	Soil	1.91E+00	3.30E-01	NA
2130307	B01935	007	10/29/92	2/8/93	Europium - 154	Soil	1.51E-01	6.82E-01	NA
2130307	B01935	007	10/29/92	2/8/93	Europium - 155	Soil	ND	NA	1.27E-01
2130307	B01935	007	10/29/92	2/8/93	Radium - 223	Soil	Half - Life too short		
2130307	B01935	007	10/29/92	2/8/93	Radium - 224	Soil	Half - Life too short		

ND = Not Detected
NA = Not Applicable

WHITE BLUFFS PICKLING ACID CRIBS/PRELIMINARY SAMPLE RESULTS

INORGANICS (ANIONS, pH, HARDNESS)

CONCENTRATIONS REPORTED IN MG/KG, EXCEPT pH.

2/22/93 Sample data has not been verified or validated

SAMPLE #	LOCATION	HARDNESS (METHOD 130.2)	NO3/NO2 (AS N)	CHLORIDE	FLOURIDE	PHOSPHATE	SULFATE	AMMONIA (AS N)	pH	FIELD pH
"INLET END OF WEST CRIB"										
B07PY8	A1	8400	7.41	1.8	0.3	0.8 U	25	0.2 U	5.5	5.6
B07PY9	A3	11100	3.83	2.3	0.4	0.8 U	15	0.2 U	6.7	6.6
B07PZ1	A2	7500	3.89	1.4	0.6	1	13	0.2 U	7.9	7
B07PZ3	A4	9200	2.52	1.8	0.4	1	10	0.2 U	7.2	7.1
A AVERAGE		9050	4.4125	1.825	0.425	0.9	15.75	0.2	6.825	6.575
"INLET END OF EAST CRIB"										
B07PZ2	E1	11100	2.42 U	2.1	1.1	1	11	0.2 U	8.3	7.2
B07PZ4	E2	22700	2.42 U	2.1	0.8	1	11	0.2 U	8.9	9.1
E AVERAGE		16900	2.42	2.1	0.95	1	11	0.2	8.6	8.15
"TRENCH THROUGH CENTER OF EAST AND WEST CRIBS"										
B07PZ5	B1	16100	2.43 U	2.2	0.5	2	6	0.2 U	9	8.4
B07PZ6	B2	7100	2.53 U	2	0.4	0.8 U	8	0.2 U	7.8	8
B07PZ7	B3	6800	2.48 U	1.8	0.3	1	6	0.2 U	8.6	7.8
B07PZ8	B4	6400	2.59 U	2.2	0.3	1	5	0.2 U	8.3	8.5
B07PZ9	B5	40700	2.46 U	2.2	0.7	0.8 U	10	0.2 U	8.7	9
B07Q00	B6	7100	2.46 U	1.8	0.3	1	6	0.2 U	9.1	8.2
B07Q01	B7	18700	2.54 U	2	1	1	10	0.2 U	9.2	8.6
B07Q03	B8	21200	2.57 U	2.1	0.3	1	6	0.2 U	9.6	9.2
B07Q04	B9	27000	2.55 U	2.3	1	1	6	0.3	9.1	8.2
B07Q05	B10	10900	2.52 U	2.1	0.5	0.8 U	5	0.3	8.5	8.7
B AVERAGE		16200	2.513	2.07	0.53	1.04	6.8	0.22	8.79	8.46
"PIPELINE SITES"										
B07Q06	C1	21900	2.47 U	12	1.5	0.8 U	292	0.4	9	8.7
B07Q09	C2	19300	2.51 U	181	2.5	0.8 U	329	3.5	8.5	8.1
B07Q07	C3	24000	2.42 U	7.8	1.9	2	44	1	10.4	9.7
B07Q08	C4	16000	2.5 U	2.3	1.4			0.4	8.5	8

WHITE BLUFFS PICKLING ACID CRIBS/PRELIMINARY SAMPLE RESULTS
INORGANICS (ANIONS, pH, HARDNESS)
CONCENTRATIONS REPORTED IN MG/KG, EXCEPT pH.

SAMPLE #	LOCATION	HARDNESS (METHOD 130.2)	NO3/NO2 (AS N)	CHLORIDE	FLOURIDE	PHOSPHATE	SULFATE	AMMONIA (AS N)	pH	FIELD pH
C AVERAGE		20300	2.475	50.775	1.825	1.15	167.25	1.33	9.1	8.625
"OVERFLOW AREA"										
B07Q10	D1	14800	16.3	5.1	0.7	2	95	3.8	6.8	7
B07Q11	D2	11500	3.7	3.4	1	2	42	1.2	6.4	6.4
B07Q12	D3	11600	3.52	11.5	1.4	1	23	4.3	7.1	6.7
D AVERAGE		12633	7.8	6.7	1.0	1.7	53.3	3.1	6.8	6.7
B07Q14	BACKGRND	14400	3.24	2.3	0.6	2	4	0.4	8	7.7
B07Q15	BACKGRND	13800	5.81	3	0.3	2	54	0.4	8	7.6
B07Q16	BACKGRND	14500	2.51 U	3	0.7	2	4	0.4	8	7.6
AVE.BCKGRD		14233	4	3	1	2	21	0	8	8
B07P20	EQUP. BLK	140	2.43 U	3	0.2	0.8 U	3	0.2 U	7.6	
B07Q01	B7	18700	2.54 U	2	1	1	10	0.2 U	9.2	8.6
B07Q02	DUP Q01	24500	2.46 U	2.2	1.1	1	10	0.2 U	8.8	8.6
B07Q12	D3	11600	3.52	11.5	1.4	1	23	4.3	7.1	6.7
B07Q13	SPLT Q12	50.9	2.7	27	3.2	4.4	23.2	6.9	6.9	6.7

DRAFT
FOR INFORMATION ONLY

2/22/93
Sample data has not been verified or validated

WHITE BLUFFS PICKLING ACID CRIBS/PRELIMINARY SAMPLE RESULTS
INORGANICS (METALS)
CONCENTRATIONS REPORTED IN (MG/KG)

DRAFT

SAMPLE #	LOCATION	ALUMINUM	ARSENIC	BARIUM	BERYLLIUM	CALCIUM	CHROMIUM	COBALT	COPPER	IRON	LEAD	MAGNESIUM	MANGANESE	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	VANADIUM	ZINC	ZIRC
B07PY8	A1	5360	1.5 B	44.1	0.17 B	2600	9.1	6.4 B	23.5	14600	3.9	3310	138	6.2 B	820 B	0.59 U	0.70 U	139 B	41.4	71.8	17.1 U
B07PY9	A3	5650	1.6 B	41.2	0.21 B	2810	9.4	6.0 B	16.7	14200	3.4	3610	142	8.3	863 B	0.54 U	0.89 B	166 B	37.0	63.7	17.5 U
B07PZ1	A2	5700	1.2 B	36.8 B	0.19 B	2870	11.2	6.6 B	20.7	13500	4.1	4080	175	9.5	763 B	0.62 B	0.74 U	171 B	34.1	50.7	18.0
B07PZ3	A4	5020	1.0 B	39.4 B	0.18 B	3010	8.0	6.8 B	13.6	15300	3.1	3460	149	7.1 B	784 B	1.10	0.98 B	151	41.6	60.5	18.3 U
A AVERAGE		5433	1.3	40.4	0.19	2823	9.4	6.5	18.6	14400	3.6	3615	151	7.8	808	0.71	0.83	157	38.5	61.7	17.7
"INLET END OF EAST CRIB"																					
B07PZ2	E1	5010	1.1 B	44.7	0.22 B	2800	9.3	6.1 B	17.3	12700	3.1	3720	156	8.8	824 B	0.60 U	0.96 B	136 B	30.1	30.3	17.4 U
B07PZ4	E2	5550	2.3	50.8	0.19 B	8010	10.0	6.2 B	17.6	13200	4.0	4350	213	10.3	794 B	0.61 U	0.76 U	166 B	32.4	31.3	18.6 U
E AVERAGE		5280	1.7	47.8	0.21	5405	9.7	6.2	17.5	12950	3.6	4035	185	9.6	809	0.61	0.86	151	31.3	30.8	18.0
"TRENCH THROUGH CENTER OF EAST AND WEST CRIBS"																					
B07PZ5	B1	6810	1.9 B	56.1	0.28 B	4650	14.0	9.1 B	17.6	15900	4.2	5130	226	14.3	1030 B	0.59 U	1.20 B	189 B	36.7	43.0	18.2 U
B07PZ6	B2	4310	1.2 B	41.0	0.16 B	2850	7.7	7.3 B	15.2	12900	3.5	2960	144	7.9 B	542 B	0.57 U	0.86 B	158 B	39.2	30.5	17.9 U
B07PZ7	B3	4630	1.2 B	29.5 B	0.13 U	2800	8.7	5.9 B	13.7	12300	2.6	3570	177	8.0 B	555 B	0.54 U	0.74 U	149 B	33.6	28.8	18.1 U
B07PZ8	B4	4640	1.2 B	29.7 B	0.14 B	2590	9.1	5.7 B	11.0	11600	2.5	3520	149	8.7	630 B	0.64 B	0.95 B	124 B	27.1	28.0	17.3 U
B07PZ9	B5	7000	2.0 B	73.8	0.24 B	22400	13.6	8.7 B	16.9	15600	6.5	6500	265	13.3	1140	0.95 B	0.76 U	194 B	33.9	40.9	18.6 U
B07Q00	B6	4140	1.3 B	43.1	0.20 B	3530	7.5	7.5 B	13.7	14900	2.5	3420	183	8.8	504 B	0.67 B	0.81 B	173 B	40.5	30.6	17.4 U
B07Q01	B7	5800	1.3 B	58.3	0.31 B	6410	10.2	7.3 B	14.6	15000	3.3	4620	190	10.8	1010	0.63 U	0.75 B	142 B	34.9	35.6	17.5 U
B07Q03	B8	4320	1.0 B	38.1 B	0.18 B	5170	9.3	6.5 B	11.8	12600	2.9	3560	178	8.8	551 B	0.68 B	0.69 U	129 B	34.2	28.0	16.9 U
B07Q04	B9	5930	2.0 B	67.0	0.23 B	9130	11.0	7.1 B	10.5	16000	3.4	4920	212	10.7	1230	0.63 U	0.99 B	154 B	34.1	38.2	18.7 U
B07Q05	B10	4170	1.3 B	39.7 B	0.18 B	4310	7.2	7.2 B	13.2	15900	2.5	3470	218	9.6	546 B	0.72 U	0.97 B	200 B	39.7	33.6	20.8 U
B AVERAGE		5175	1.4	47.6	0.21	6384	9.8	7.2	13.8	14270	3.4	4167	194	10.1	774	0.66	0.87	161	35.4	33.7	18.1
"PIPELINE SITES"																					
B07Q06	C1	5730	1.7 B	55.6	0.26 B	6750	10.0	6.9 B	9.7	17600	2.9	4390	240	9.8	1260	0.58 U	1.30 B	362 B	35.9	35.0	17.3 U
B07Q09	C2	5720	1.2 B	75.1	0.31 B	3900	7.9	10.9	10.7	20800	3.4	4320	376	11.3	1020	0.65 B	1.30 B	178 B	52.6	46.6	17.7 U
B07Q07	C3	6010	1.7 B	58.1	0.29 B	5220	9.9	7.6 B	10.4	19100	3.6	4410	257	10.6	1140 B	0.74 U	1.80 B	543 B	40.9	*****	25.9
B07Q08	C4	4070	1.6 B	46.8	0.19 B	4230	6.5	5.9 B	6.6	12900	4.3	3220	196	7.4 B	866 B	0.61 U	0.81 U	750 B	30.1	*****	17.9 U
C AVERAGE		5383	1.6	58.9	0.26	5025	8.6	7.8	9.4	17600	3.6	4085	267	9.8	1072	0.65	1.30	458	39.9	*****	19.7

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WHITE BLUFFS PICKLING ACID CRIBS/PRELIMINARY SAMPLE RESULTS
INORGANICS (METALS)
CONCENTRATIONS REPORTED IN (MG/KG)

SAMPLE #	LOCATION	ALUMINUM	ARSENIC	BARIUM	BERYLLIUM	CALCIUM	CHROMIUM	COBALT	COPPER	IRON	LEAD	MAGNESIUM	MANGANESE	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	VANADIUM	ZINC	ZIRC
"OVERFLOW AREA"																					
B07Q10	D1	5730	0.9 B	50.8	0.19 B	3400	10.2	6.7 B	18.7	16300	6.7	3740	190	9.2	1430	0.68 U	1.00 B	136 B	39.3	68.7	19.2 U
B07Q11	D2	8060	1.0 B	64.3	0.36 B	4940	13.3	10.0 B	14.2	23400	5.1	5210	263	12.5	1980	0.70 U	1.50 B	493 B	55.9	*****	19.4 U
B07Q12	D3	7370	3.6	57.9	0.30 B	3460	43.1	9.3 B	11.4	19200	3.9	4040	177	27.8	1710	0.67 U	0.93 B	165 B	51.5	50.5	17.2 U
D AVERAGE		7053	1.8	57.7	0.28	3933	22.2	8.7	14.8	19633	5.2	4330	210	16.5	1707	0.68	1.14	265	48.9	*****	18.6
B07Q14	BACKGRND	6090	0.9 B	72.8	0.31 B	3420	8.5	9.7	9.3	20500	3.5	3850	347	8.7	1490	0.60 U	1.40 B	131 B	48.5	46.6	20.9
B07Q15	BACKGRND	6090	0.9 U	68.2	0.26 B	3390	8.8	8.4 B	9.1	17900	3.1	3680	317	8.9 B	1710	0.71 U	1.30 B	140 B	42.7	43.3	20.4 U
B07Q16	BACKGRND	7220	1.2 B	79.6	0.37 B	3760	9.8	11.0 B	10.1	23300	3.5	4180	372	9.9	1620	0.67 U	2.10 B	176 B	58.8	49.4	30.7
AVE.BCKGRD		6467	1.0	73.5	0.31	3523	9.0	9.7	9.5	20567	3.4	3903	345	9.2	1607	0.66	1.60	149	50.0	46.4	24.0
B07PZ0	EQUP. BLK	33.9 B	0.4 U	0.1 U	0.06 U	0 U	0.5 U	0.3 U	8.4	451	0.8	7 B	0 B	0.5 U	16 U	0.75 B	0.70 U	22 B	0.5 U	1.8 B	17.2 U
B07Q01	B7	5800	1.3 B	58.3	0.31 B	6410	10.2	7.3 B	14.6	15000	3.3	4620	190	10.8	1010	0.63 U	0.75 B	142 B	34.9	35.6	17.5 U
B07Q02	DUP Q01	5730	1.5 B	54.0	0.24 B	6330	9.6	8.3 B	14.7	15300	5.3	4910	200	11.8	1010 B	0.60 U	0.79 B	145 B	35.4	38.0	18.4 U
B07Q12	D3	7370	3.6	57.9	0.30 B	3460	43.1	9.3 B	11.4	19200	3.9	4040	177	27.8	1710	0.67 U	0.93 B	165 B	51.5	50.5	17.2 U
B07Q13	SPLT Q12	5370	2.4	52.3	0.29 B	3250	9.5	8.4 B	13.2	14600	3.6	3670	143	13.6	1410	0.41 U	2.04 U	165 B	36.0	40.4	

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